

Environmental Justice Geographic Assessment Tool

What Is the “Tool”?

1. Using a GIS interface and GIS functionality the “Tool” offers a new approach to investigating potential allegations involving Environmental Justice.
2. Community and Environmental information is available nationwide via the internet.
3. The address for the “Tool” on the internet is <http://www.epa.gov/enviro/ej> and is also available via intranet at <http://intranet.epa.gov/enviro/ej>.

Additional Information on the “Tool”

1. The “Tool” was developed as a part of a collaborative project between the Office of Environmental Justice (OEJ) and the Office of Environmental Information (OEI).
2. When it is fully developed it will provide a means to conduct a robust preliminary analysis of environmental justice related factors.
3. It is meant to serve as a module to be incorporated on the front end (during screening) of environmental justice assessments.

new tools { World Trade Center [2 people in census block] you know that's not the
Land Scan - day & night census tract data.

Common Misconceptions

1. GIS Tool is not a miracle equation that cranks out definitive answers.
2. Without any knowledge of Environmental Justice Issues or Communities the “Tool” lacks utility.

What Is the “Tool” Used for?

The GIS tool is used by EPA employees to perform preliminary screening queries. These queries are based on data concerned with social, economic, health, and environmental Indicators.

Indicators are defined as data that highlight some aspect of current conditions and trends in the environment or within a community

What Does the EJ Geographic Assessment Tool Do?

- ☐ Provides users with interactive Geographic Information System (GIS) functionality using Environmental Protection Agency (EPA) spatial data.
- ☐ Provides a geographic perspective on facility location based on area demographics.
(<http://www.epa.gov/enviro/ej>).
- ☐ Displays and calculates statistics on social, economic, health, and environmental indicators.
- ☐ Cross-references multiple databases and organizes data retrieved.
- ☐ Provides users an interactive mapping display.

Objectives...

1. General Map Navigation
 2. Digitizing and associated info...
 3. Requested examples
 - a. Commonwealth Oil Refining Company Inc. (CORCO)
 - b. Random Audience example if time permits...
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How to Use the Tool In a Nutshell...

1. Create a query- select an area of interest and then “zoom to chosen geography.”
2. Map Features- toggle map features and then select “Redraw.”
3. Digitize- specify area of interest, draw the boundaries and then select “EJ assessment.”
4. Review the EJ assessment indicator profile- choose between the different tabs to find out more about your selected area.

The EJ GIS Tool Allows You to View Spatial Data for Any...

- ☐ State
- ☐ County
- ☐ City
- ☐ Zip code
- ☐ Watershed
- ☐ EPA region
- ☐ Latitude
- ☐ Longitude
- ☐ Facility

☐ Select State:

Alabama
 Alaska
 Arizona
 Arkansas
 California
 Colorado
 Connecticut
 Delaware
 District of Columbia
 Florida
 Georgia
 Hawaii

☐ Select City:
 (Choose state first)

☐ Enter ZIP Code:

☐ Select EPA Region

☐ Enter Latitude And Longitude:

☐ Decimal Degree Format
 (e.g.: latitude= 40.7833333, longitude= -73.9857)

Latitude:
 Longitude:

☐ Degree-Minute-Second Format
 (e.g.: latitude=40°47'10.11", longitude=73°58'05.12")

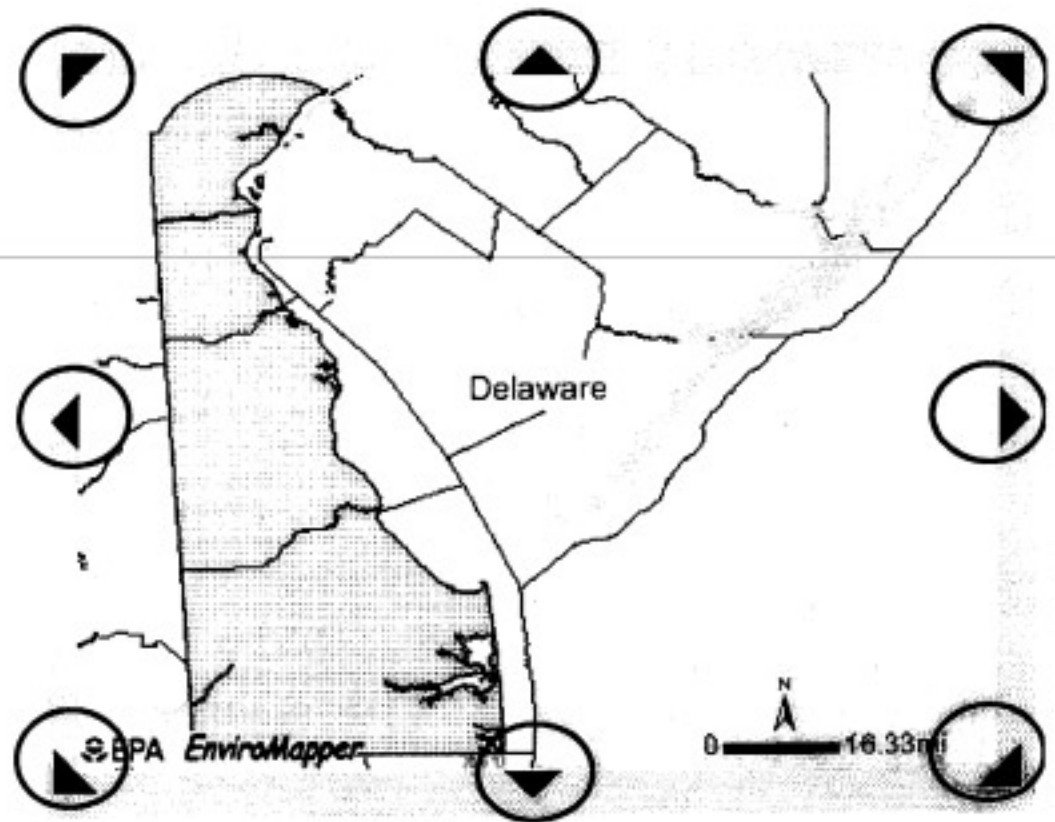
Latitude:
 Longitude:

☐ Conterminous USA

Zoom to Chosen Geography
 Clear

Maps Display Can Be Manipulated By...

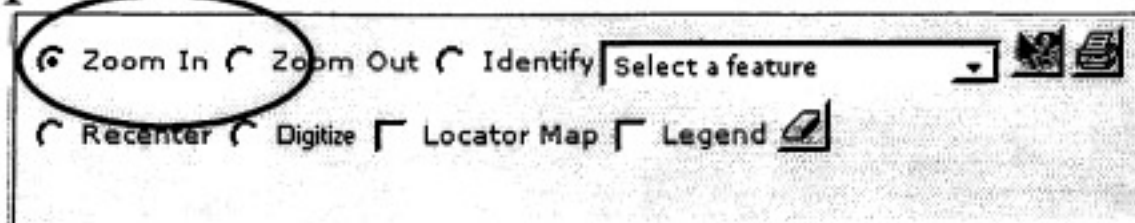
- ☐ Pan - using the blue arrows that lay on the borders of the map will shift the map in the desired direction.
- ☐ Re-centering map - Map will be re-centered around point of interest. Must click re-center toggle button before selecting area of interest.



Maps Display Can Be Manipulated By...

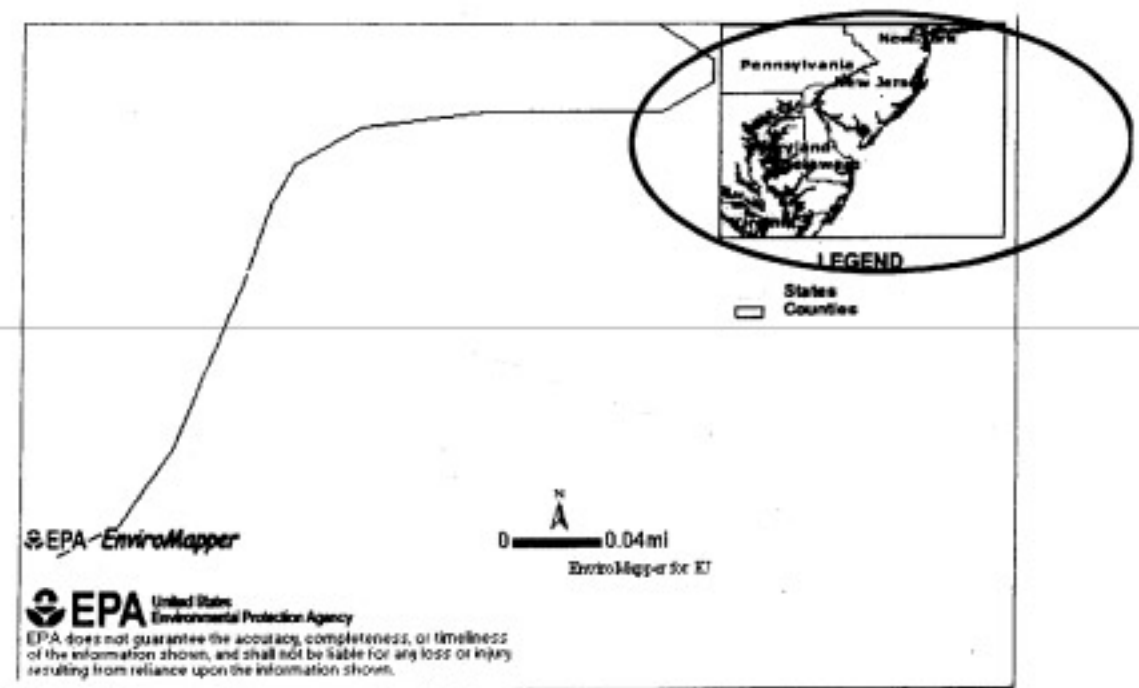
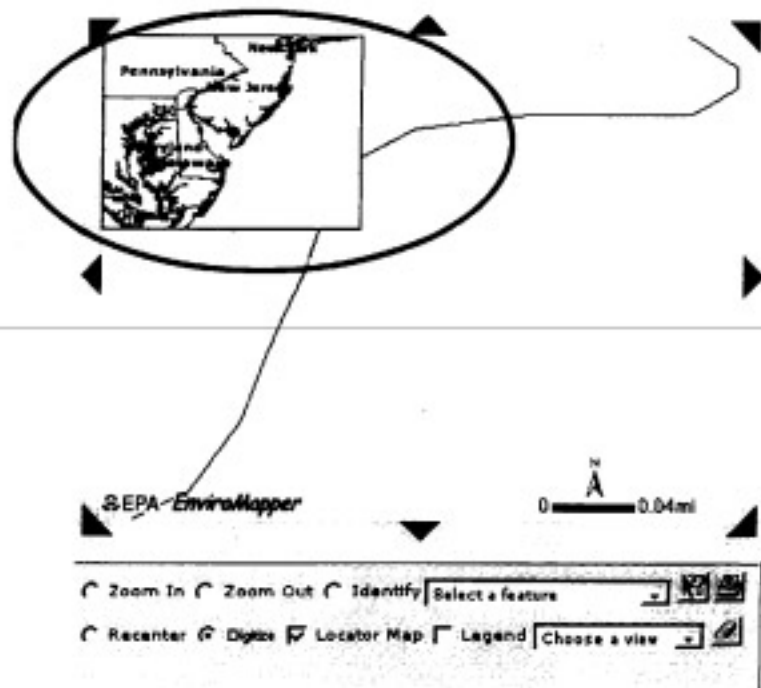
☐ Zooming in - allows you to view map two times as close than size currently displayed on the screen. You must click on the toggle button and the area of interest on the map to zoom in .

☐ Zooming out - allows you to view map two times further out than size currently displayed on the screen. Again, the toggle button must be clicked before you proceed to the area of interest on the map.



Locator Map

- ☐ Displaying a locator map - provides zoomed out view of area of interest.

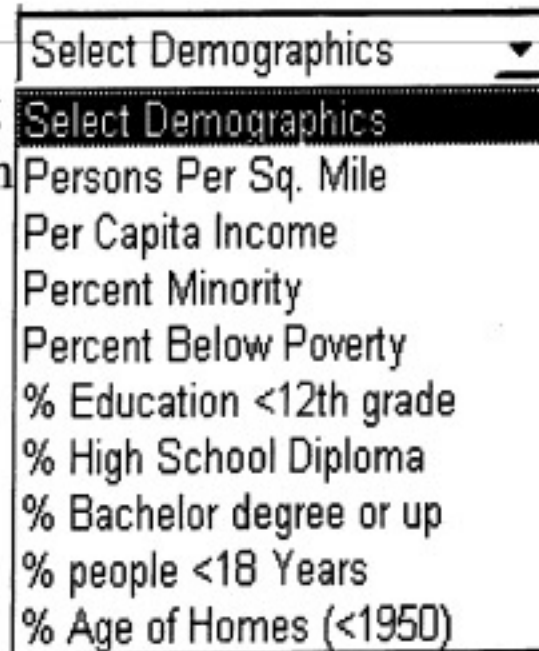


Selecting Demographics

Drop down tool in top right corner, that allows you to redraw the map based on demographic information provided by EJ assessment analysis

- ☐ Persons per square mile
- ☐ Per capita income
- ☐ % Minority
- ☐ % Below poverty
- ☐ % Education <12 grade
- ☐ % High school diploma
- ☐ % Bachelor degree
- ☐ % People <18 years
- ☐ % Home built before 1950

After making your selection click 'GO' and a legend will appear under the 'Map Features' header



Select Demographics ▼

- Select Demographics
- Persons Per Sq. Mile
- Per Capita Income
- Percent Minority
- Percent Below Poverty
- % Education <12th grade
- % High School Diploma
- % Bachelor degree or up
- % people <18 Years
- % Age of Homes (<1950)

GO!

Map – Features or Layers

The following layers can be displayed using the EJ GIS assessment tool...

- | | |
|---|---|
| <input type="checkbox"/> Health Service Areas | <input type="checkbox"/> Federal Lands |
| <input type="checkbox"/> Schools, Churches, Hospitals | <input type="checkbox"/> Watersheds |
| <input type="checkbox"/> Highways | <input type="checkbox"/> Congressional Districts |
| <input type="checkbox"/> Impaired Water Bodies, Streams | <input type="checkbox"/> City Boundaries |
| <input type="checkbox"/> Superfund | <input type="checkbox"/> Counties, states |
| <input type="checkbox"/> Water Dischargers | <input type="checkbox"/> Air Monitors, Water Monitors |
| <input type="checkbox"/> BRS (Biennial Reporting System) | <input type="checkbox"/> Digital Topography |
| <input type="checkbox"/> Streets | <input type="checkbox"/> Multi-activities |
| <input type="checkbox"/> Special Flood Hazard Areas, Moderate Flood Areas | <input type="checkbox"/> Toxic Releases, Air Emissions, Hazardous Waste |












Maps Can Also Include the Following...

- ☐ Health service areas
- ☐ Regulated sites
- ☐ Schools
- ☐ Hospitals
- ☐ Highways
- ☐ Watersheds
- ☐ Demographic information
- ☐ Air monitors
- ☐ Digital topography

Select Demographics ▼ **GO!**

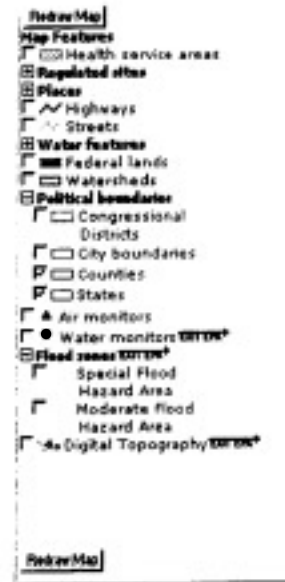
Redraw Map

Map Features

- ☐  Health service areas
- ☒ **Regulated sites**
- ☐ **Places**
 - ☐  Schools
 - ☐  Churches
 - ☐  Hospitals
 - ☐  Highways
 - ☒  Streets
- ☒ **Water features**
 - ☐  Federal lands
 - ☐  Watersheds
- ☒ **Political boundaries**
- ☐  Air monitors
- ☐  Water monitors **EXIT EPA**
- ☒ **Flood zones** **EXIT EPA**
- ☐  Digital Topography **EXIT EPA**

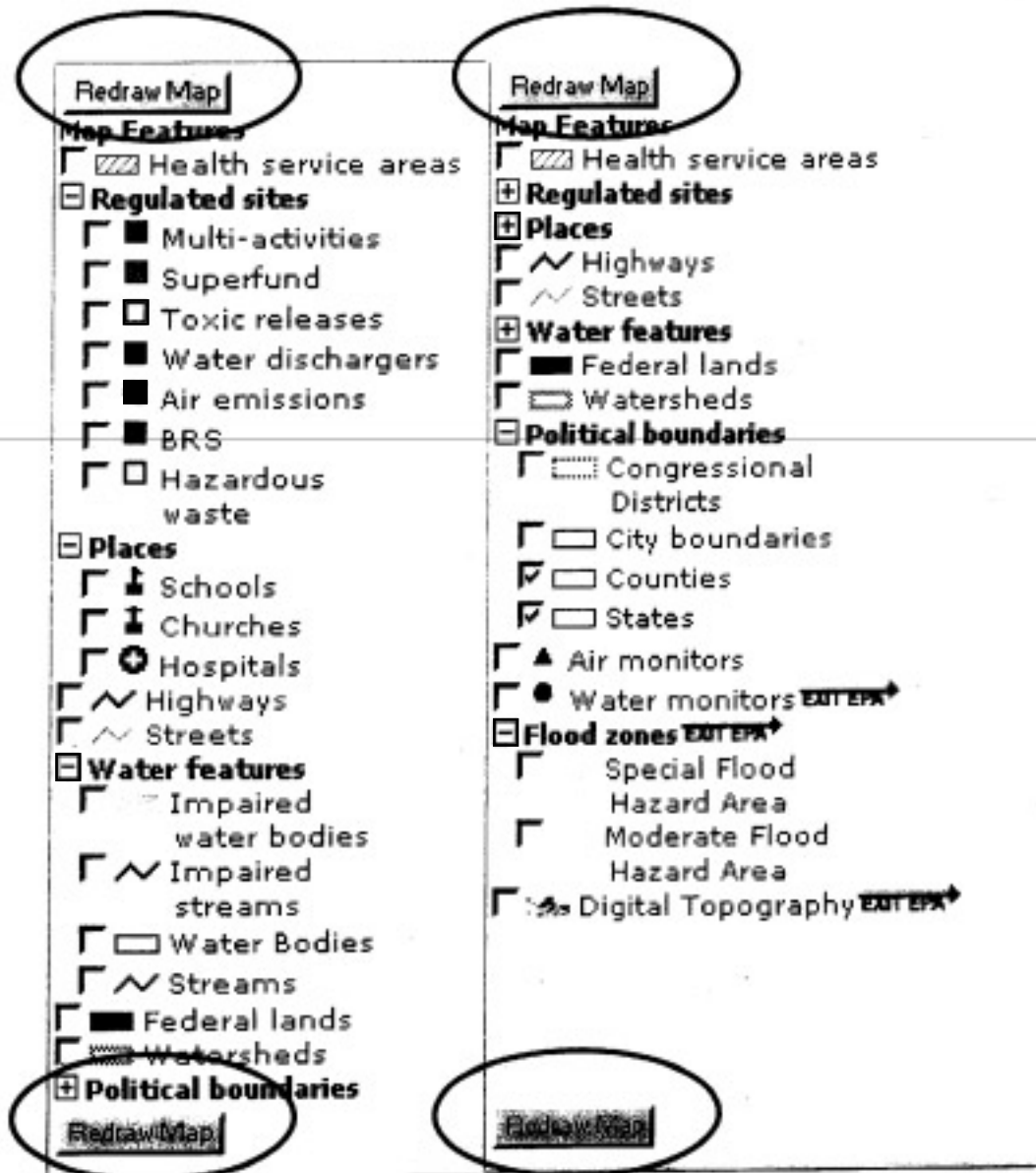
Legend

- ☐ The legend option allows you to remove from view the mapping features on the right hand side of the map that have not been turned on.
- ☐ Click on the legend check box to use the option.
- ☐ To redisplay mapping features just uncheck the box.



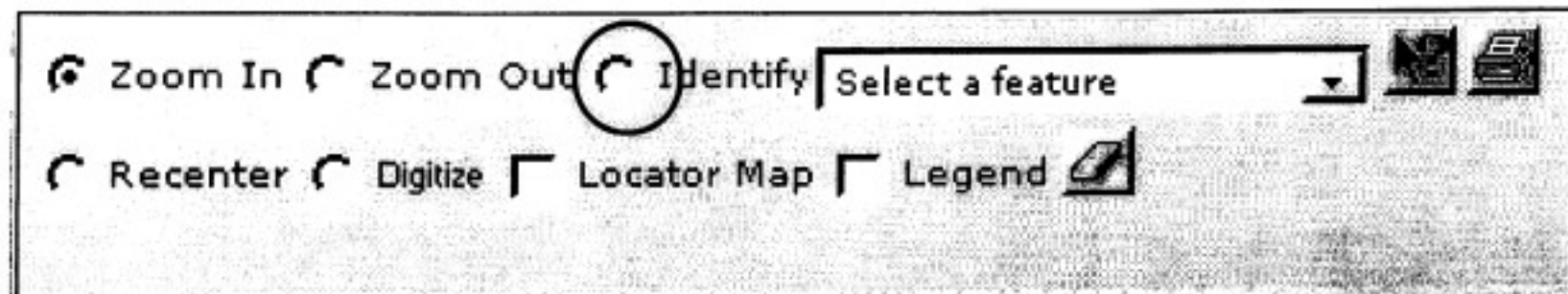
Redraw Map

Located at the top and bottom of the legend, to the right of main display map. Allows user to refresh display. In addition legend options can be toggled on or off. This will activate and deactivate specific layers. The Redraw and Go button are synonymous (they both refresh the map).

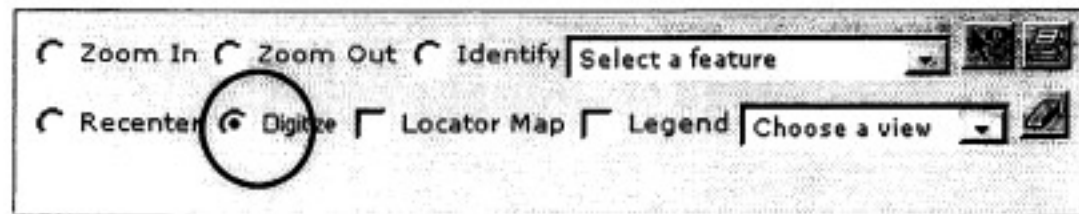


Individual Features

- ❑ Identifying a feature - provides a name or code for a piece of layer selected. Click “Identify” toggle button and select a feature from the drop down menu. Select the feature you wish to identify from the drop down menu. Then click on the feature on the map display



Digitize



- ☐ The “Digitize” button allows users to specify an area within the map image.
- ☐ This area can specified by using a point, line or polygon.
- ☐ Once selected a popup window will appear with specific instructions in order to view your digitized map.
- ☐ After digitizing is complete, click the ‘EJ assessment’ button and an EJ assessment page will pop up.
- ☐ Map and statistics will appear in pop up window.
Different tabs can be selected to present different statistics.
(I.E.: Social, Economic, Health, Environment).

Digitize allows you to draw your project location within the image/map. A project can be represented by a point, line, or polygon.

Instruction for digitizing:

1. Choose one of the digitizing options: Point, Line, Polygon, or Current Map Window.

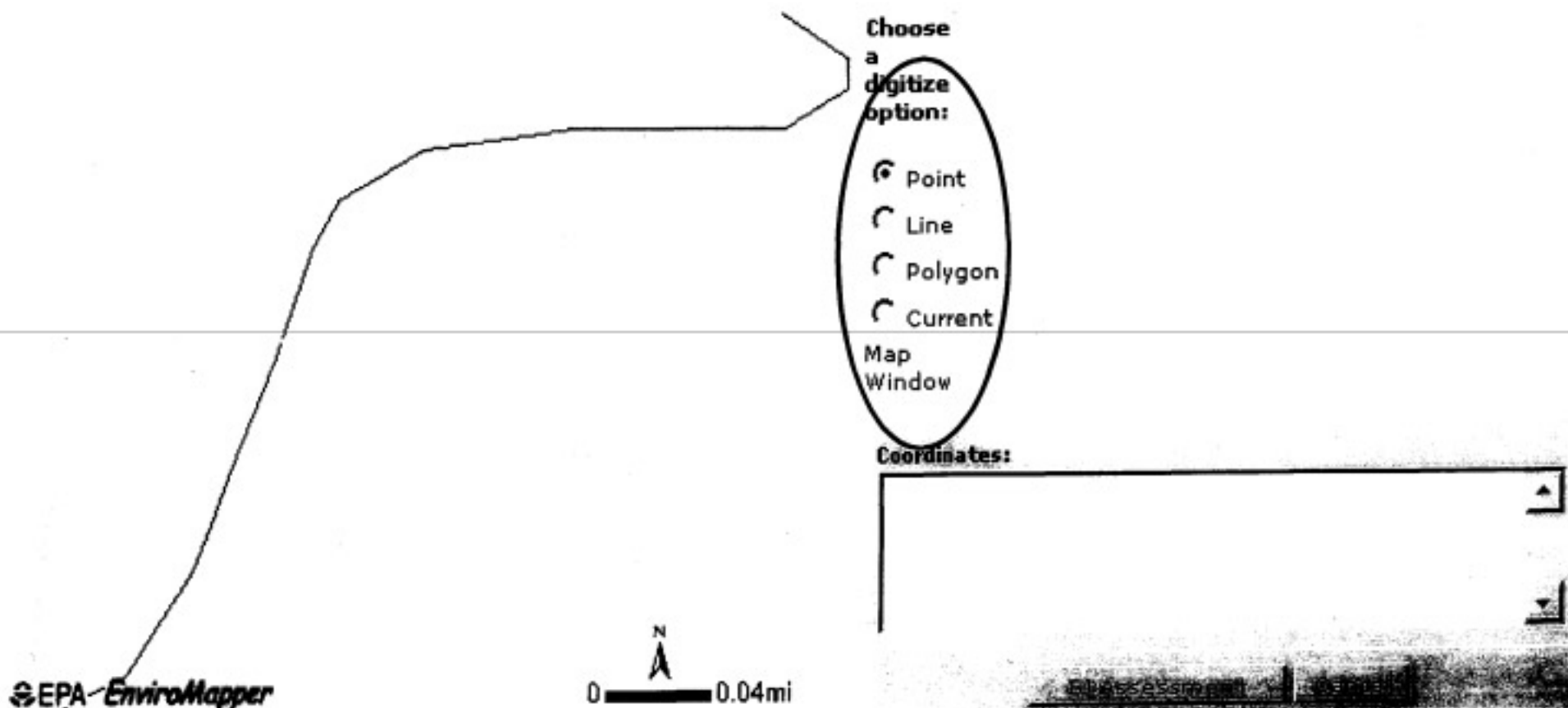
2. Draw/digitize the project location on the image.

Point - To digitize a point, click once on the image to indicate the location of the project.

Line - To digitize a line, click two or more points on the image to indicate the location of the project, double click to end the line.

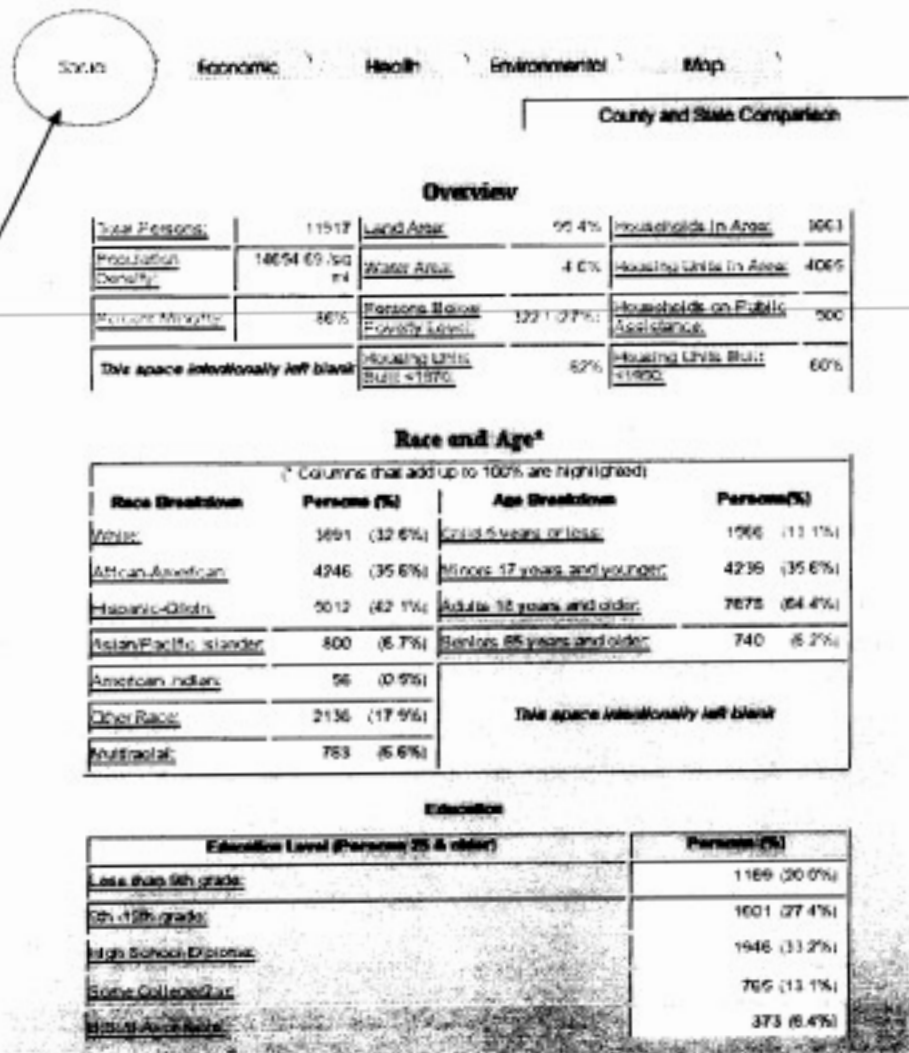
Polygon - To digitize a polygon, click three or more points on the image and double click on the image to close the polygon. Always digitize a polygon in a clockwise direction.

3. Once you have completed drawing your project location, click "EJ Assessment" on the bottom right side of the screen. Your project location information will be sent to the EJ application and get demographical analyze results for your project location. "Cancel" will erase the project location information that you have entered.



Digitized Tables

Indicators on Social, Economic, Health and Environmental Data are displayed in tables and are accessible by clicking on their respective tabs. (ex: Social Table)



Social Economic Health Environmental Map

County and State Comparison

Overview

Total Persons:	11517	Land Area:	95.4%	Households in Area:	1061
Population Density:	14054.69/sq mi	Water Area:	4.6%	Household Units in Area:	4065
Minority Minority:	46%	Persons Below Poverty Level:	1221 (27%)	Households on Public Assistance:	500
This space intentionally left blank		Household Units Built <1970:	62%	Household Units Built <1990:	60%

Race and Age^a

(^a Columns that add up to 100% are highlighted)

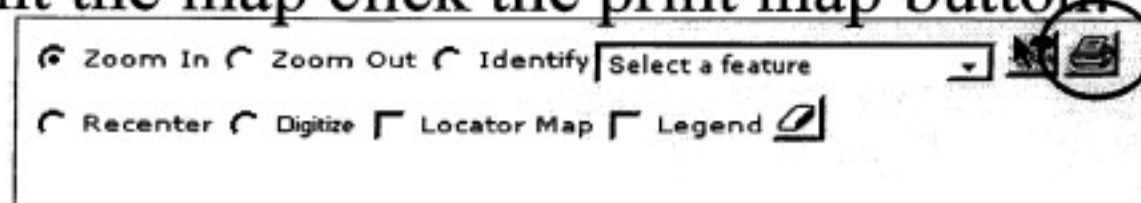
Race Breakdown	Persons (%)	Age Breakdown	Persons (%)
White:	3691 (32.6%)	Child 5 years and less:	1566 (13.1%)
African American:	4246 (35.6%)	Minor 17 years and younger:	4236 (35.6%)
Hispanic/Latino:	5012 (42.1%)	Adult 18 years and older:	7675 (64.4%)
Asian/Pacific Islander:	800 (6.7%)	Seniors 65 years and older:	740 (6.2%)
American Indian:	56 (0.5%)	This space intentionally left blank	
Other Race:	2136 (17.9%)		
Unspecified:	753 (6.6%)		

Education

Education Level (Persons 25 & older)	Persons (%)
Less than 9th grade:	1169 (20.0%)
9th-11th grade:	1601 (27.4%)
High School Graduate:	1946 (33.2%)
Some College/Grad:	765 (13.1%)
Master's Degree and above:	373 (6.4%)

Print Map

- ☐ To print the map click the print map button.



- ☐ A pop up window will prompt you to create a title and submit for printing.

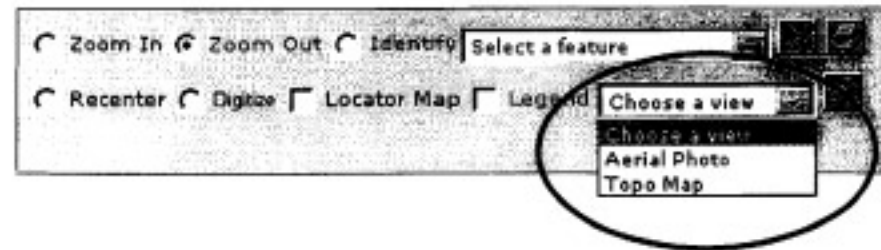
Enter the map title (up to 50 characters):

- ☐ After your map appears you can adjust the size of your printout.

☐ 400 x 300 ☐ 600 x 450 ☒ 800 x 600 ☒ Locator Map

- ☐ Click on submit to finish.

Choose a View



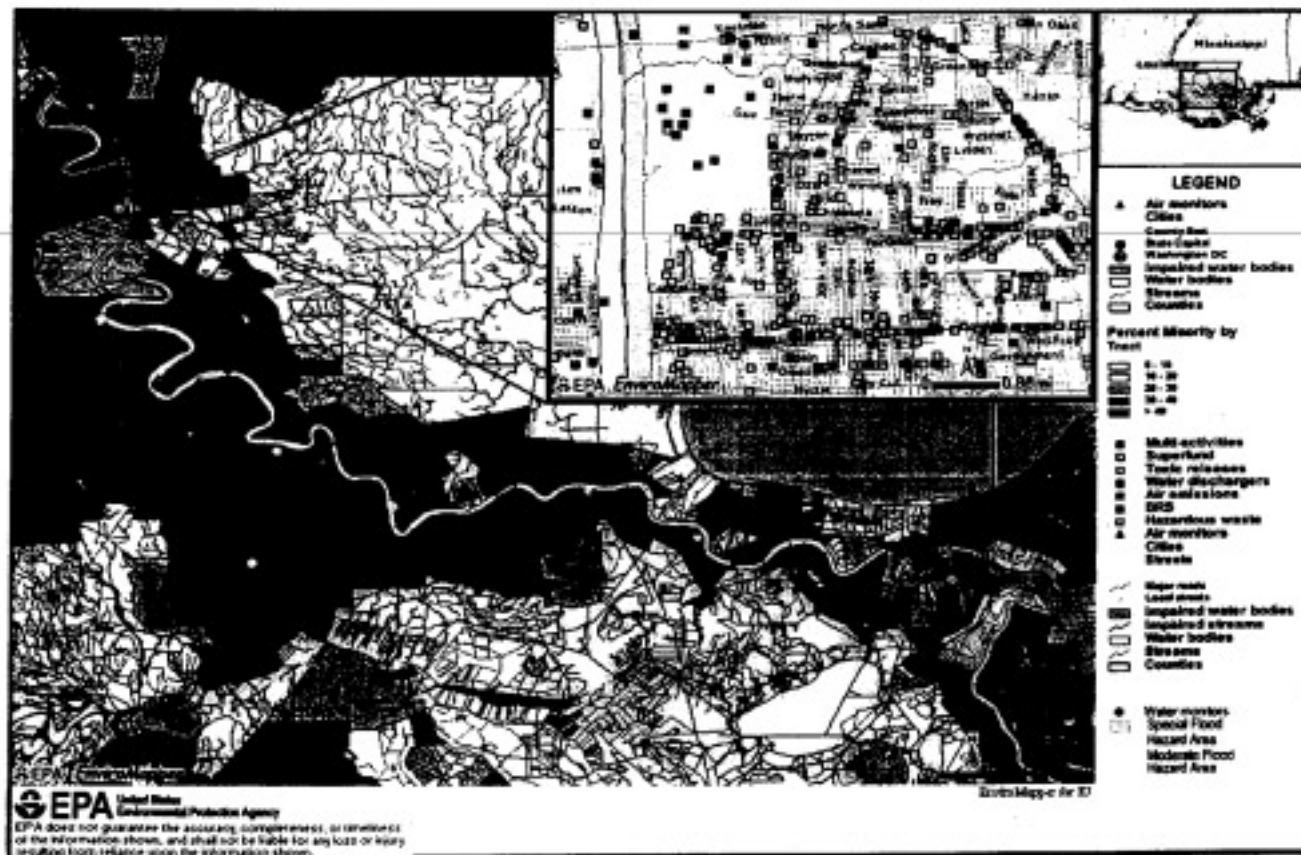
The “Choose a view” drop down menu allows you to the option to see either an...

- ☐ Aerial photograph – highlight the “Aerial Photo” option. Data is generated from USGS
- ☐ Topographical map – highlight the “Topo Map” option. This data is also provided by USGS



What You Can Do With a Little Creativity...

Mississippi River Corridor, Louisiana



Tar Creek, Oklahoma

